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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

AN, SHAWN S

ART UNIT PAPER NUMBER

2613

17

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/785,512

Applicant(s)

YARON, AVI

Examiner

Shawn S An

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-72 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20,21,51 and 53-70 is/are allowed.
- 6) ☒ Claim(s) 1-19,22-50,52,71 and 72 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Request for Continued Examination

1. The request filed on 4/23/04 for a Request for Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 09/785,512 is acceptable and a RCE has been established. An action on the RCE follows.

Response to Amendment

2. As per Applicants' instructions in Paper 16 as filed on 4/23/04, claim 1 has been amended.

Response to Remarks

3. Applicant's arguments with respect to amended claim 1 has been carefully considered but are moot in view of the same ground(s) of rejection incorporating the previously cited prior art references with added support and interpretations.

Note: As agreed on the last phone interview (informal), the Examiner has contacted the Applicant's representative since the amendment did not place the application in condition for an allowance. However, at this time, no agreement has been reached between the Examiner and the Applicant.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-19, 22-25, and 71-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al (5,653,677) in view of Iddan et al (5,604,531).

Regarding claim 1, Okada et al discloses a system for producing a stereoscopic of an object, the system comprising:

a control unit (Fig. 9, 23 or 150);

the system comprising:

a **stereoscopic** sensor assembly (Fig. 9, elements (26 via 23 via 22), 149;

Note: output signal of 150, Stereoscopic Image; col. 4, lines 50-67; col. 8, lines 41-48);

a processor (150) connected to the sensor assembly;

a transceiver (26 and 27) connected to the processor;

a light source (col. 5, lines 1-7); and

a power supply (Fig. 6, 17) for supplying electrical power, and

an image processing system (150) connected to the control unit

transceiver,

wherein, the sensor assembly detects stereoscopic image, the processor captures the stereoscopic image, the transceiver transmits the stereoscopic image to the control unit and the image processing system processes the stereoscopic image (Fig. 9).

Furthermore, it is considered quite obvious for the power supply to supply electrical power to the capsule transceiver, the processor, the light source, and to the sensor assembly in order to operate all of the electrical devices as specified above.

Okada et al does not particularly disclose a swallowable capsule.

However, an endoscope comprising a swallowable capsule is well known in the art.

Iddan teaches an endoscope comprising a swallowable capsule (Fig. 2).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a stereoscopic device as taught by Okada et al et al to incorporate the Iddan's swallowable capsule for portability (wireless) and easily accessing an area of interest for stereoscopic imaging.

Regarding claims 2-3, a memory unit for storing images are well known in the art. Therefore, it would have been obvious to utilize a memory unit connected to the processor/control unit/image processing system/capsule transceiver for later viewing.

Regarding claims 4-6, an optical assembly for focusing an image of an object is inherently well known in the art. Therefore, it would have been obvious to utilize an optical focusing device for focusing an image of an object on the sensor assembly.

Regarding claims 7-12, Okada et al discloses a light dispersing unit (col. 5, lines 1-7). Therefore, it would have been obvious to utilize the light dispersing unit which surround the sensor assembly completely or partially for effective lighting of an object.

Regarding claims 13-16, Okada et al discloses a collecting department (col. 5, lines 45-60) and a dispensing department (col. 5, lines 61-67). Further, Okada discloses disposing imaging unit to a predetermined position as cited above. Furthermore, door mechanism is well known in the art. Therefore, it would have been obvious to utilize the door mechanism to be connected to the processor for easy dispensing or collecting.

Regarding claim 17, the Examiner takes official notice that an user interface connected to the control unit transceiver and to the image processing system for a purpose of coordinating the observation/operation is well known in the art.

Regarding claims 18-19, it is considered an obvious feature for an dispensing/collecting compartments to dispense/collect a medical substance/a bodily substance, respectively.

Regarding claims 22-25, it is considered an obvious feature for a door mechanism to comprise a moving elements, such as shape memory element, bi-metallic element, or micro-electromechanical element, for opening or closing each of the door mechanisms.

Regarding claims 71 and 72, Okada et al discloses stereoscopic display unit (151).

6. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al and Iddan et al as applied to claim 1 above, and further in view of Adelson (5,076,687).

Regarding claim 26, Okada et al fails to disclose lenticular lens array and a light sensor array. However, Adelson teaches a sensor assembly comprising: lenticular lens layer (18) including a plurality of lenticular elements; and light sensor array (23), and wherein the lenticular element is located in front of the light sensors (Fig. 1), thereby directing light from different directions to different light sensors within the selected group of the light sensors.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a system for producing a stereoscopic of an object as taught by Okada et al to incorporate the lenticular lens array and the light sensor array as taught by Adelson in order to direct light from different directions to different light sensors within the selected group of the light sensors for achieving stereoscopic image.

7. Claims 27-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al and Iddan et al as applied to claim 26 above, and further in view of Watannabe (5,812,187). **Regarding claims 27-28**, the combination of Okada et al and Adelson does not specifically disclose a light source producing at least two alternating beam of light as being in a different range of wavelengths.

However, Watannabe teaches an endoscope (Fig. 1) including a conventional light source unit producing at least two alternating beam of light (5) as being in a different range of wavelengths.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a stereoscopic device as taught by Okada et al et al to incorporate the Watannabe's light source unit so as to produce at least two alternating beam of light (R, G, B) having a different range of wavelengths for generating a more accurate color video signal, thus improving an image quality.

Regarding claims 29-30, it is considered quite obvious to include two group of sensor or a plurality of sensors so that each group of sensor can detect light in a different/predetermined wavelength such as blue or red or green.

Regarding claims 31-33, Watannabe discloses a wavelengths consisting of visible red, green blue colors light (7). Furthermore, it is considered quite obvious to add more conventional colors such as cyan, yellow, magenta, infra-red, ultra-violet, and visible light.

Regarding claims 34-35, RGB sensor array or CYMG sensor array are well known in the art.

Regarding claims 36-38, Adelson discloses lenticular element including light directing means for distinguishing between at least two directions of light (Fig. 3B), four directions of light (Fig. 3B), and in a general semi-cylindrical shape (18).

Regarding claim 39, Adelson teaches light sensors including an odd number of light sensors (23). Therefore, it is considered purely design preference to have an even number of light sensors as specified.

8. Claims 40-50 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al and Iddan et al as applied to claim 1 above, and further in view of Street (6,075,555).

Regarding claims 40, 42, and 52, Okada et al fails to disclose at least two apertures including a light valve, and a light sensor array.

However, Street discloses a stereoscopic device comprising:

at least two apertures (Fig. 3, 41) including a light valve being operative to open at a different predetermined timing (col. 6, lines 34-50);

a light sensor array (32);

an illuminating unit (Fig. 1, 1);

wherein the light sensor array detects a plurality of images corresponding to an open state of a selected one of the light valves (col. 6, lines 26-64).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a system for producing a stereoscopic of an object as taught by Okada et al to incorporate the Street's two apertures including a light valve and a light sensor for generating a stereoscopic video signal, thus improving an image quality.

Regarding claims 41 and 50, a light source producing at least two alternating beams of light is well known in the art (see **Watannabe**). Therefore, it's quite obvious, wherein images must correspond to a predetermined combination of open state of a selected one of the light valves and a selected one of the at least two alternating beams.

Regarding claims 43-44, it is considered quite obvious to include two group of sensor or a plurality of sensors so that each group of sensor can detect light in a different/predetermined wavelength such as blue or red or green.

Regarding claim 45-47, a wavelengths consisting of visible red, green blue colors light (7) is well known in the art. Furthermore, it is considered quite obvious to add more conventional colors such as cyan, yellow, magenta, infra-red, ultra-violet, and visible light. (see **Watannabe**).

Regarding claims 48-49, RGB sensor array or CYMG sensor array are well known in the art.

Allowable Subject Matter

9. Claims 20-21, 51, and 53-70 are allowed as having incorporated the allowable subject matter into corresponding independent claims.


Conclusion

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Shawn S An whose telephone number is 703-305-0099. The examiner can normally be reached on Flex hours (10).

11. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2613

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



OLIVIA A. J. J.
PATENT EXAMINER

SSA

Primary Patent Examiner

6/25/04